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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

Atty. Docket

THOMAS B. SCHALK

PHA 23,955

Serial No. 09/222,073

Group Art Unit: 2641

Filed: DECEMBER 29, 1998

Examiner: A. AZAD

Title: A TELECOMMUNICATION SYSTEM, A CHANNEL EXTENSION PROTOCOL,
AND A RADIO STATION

Commissioner for Patents
Washington, D.C. 20231

Sir:

Enclosed is an original plus two copies of an Appeal
Brief in the above-identified patent application.

Please charge the fee of \$300.00 to Deposit Account
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Respectfully submitted,

By
Daniel J. Piotrowski, Reg. 42,079
Senior Corporate Patent Counsel
(914) 333-9624

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APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192

Sir:

Appellants present their brief on appeal as follows:

REAL PARTY OF INTEREST

The real party of interest is the assignee, U.S. Philips Corporation, and not the parties named in the above caption.

RELATED APPEALS AND INTERFERENCES

With regard to identifying by number and filing date all other appeals or interferences known to appellants which will directly effect or be directly affected by or have a bearing on the Boards' decision in this appeal, Appellants are not aware of any such appeals or interferences.

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STATUS OF THE CLAIMS

Claims 1-5, 7, 13-16 are pending in this application. Upon appeal claims 1-5, 7, 13-16 stand finally rejected. A copy of the claims under appeal are appended to this brief in Appendix A.

STATUS OF AMENDMENTS

A Response, dated February 4, 2002, was presented subsequent to the Final Office Action, dated November 6, 2001, in which the claims were not amended. The Advisory Action, dated March 18, 2002, indicated that the Response was considered but did not place the application in condition for allowance. A Notice of Appeal was filed on February 4, 2002 by Appellant's representative.

This Appeal is directed to the claims as they stood at the time of the Final Office Action.

SUMMARY OF THE INVENTION

Briefly, the claimed invention is directed to method and system of recognizing a spoken digit string, *see specification at page 3, lines 1-11 and FIG. 1*. More particularly, the method includes the steps of receiving the spoken digit string, *see page 7, lines 21-22 and FIG. 1, element 14*, analyzing the spoken digit string to generate a list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the spoken digit string, *see page 7, line 22 through page 8, line 6 and FIG. 1, element 16*, determining whether individual hypothesized strings of said list satisfy a given

constraint, using a given knowledge based recognition strategy, and selecting the first string in the list satisfying the constraint as the recognized string, *see page, line 6-20 and FIG. 1, elements 18-28.*

If none of the hypothesized digit strings satisfy the constraint, the method further includes the steps of prompting entry of a second spoken digit string, analyzing the second spoken digit string to generate a second list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the second spoken digit string, and selecting the recognized string in accordance with a comparison of the first and the second list, *see page 4, lines 4-9; and page 8, lines 15-22.*

THE ISSUE

Whether under 35 U.S.C. § 103(a), the differences between the invention of Claims 1-5, 7, 13-16 and 18 and U.S. Patent No. 6,122,612 to Goldberg et al. (hereinafter "Goldberg") in view of U.S. Patent No. 6,208,965 to Brown (hereinafter "Brown") are such that the invention as a whole would have been obvious when the invention was made to those of ordinary skill in the art.

PRIOR ART

1. U.S. Patent No. 6,122,612 (Goldberg)
2. U.S. Patent No. 6,208,965 (Brown)

GROUPING OF CLAIMS

For each ground of rejection which Appellants' contest herein which applies to more than one claim, such additional claims, to the extent separately identified and argued below, do not stand or fall together.

ARGUMENT

The rejection of Claims 1-5, 7, 13-16 and 18 under 35 U.S.C. § 103(b) allegedly as obvious from U.S. Patent No. 6,122,612 (Goldberg) in view of U.S. Patent No. 6,208,965 (Brown), is in error because the differences between the inventions of these claims and the cited references are such that the inventions as a whole would not have been obvious when the inventions were made to those of ordinary skill in the art. There is no teaching or suggestion in Goldberg and Brown, either alone or in combination, if none of the hypothesized digit strings satisfy the constraint... prompting entry of a second spoken digit string, analyzing the second spoken digit string to generate a second list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the second spoken digit string, and selecting the recognized string in accordance with a comparison of the first and the second list, as recited in independent Claim 1.

Claim 1 is directed to a method of recognizing a spoken digit string. The method includes the steps of receiving the spoken digit string, analyzing the spoken digit string to generate a list of hypothesized digit strings arranged in ranked order based on a

likelihood of matching the spoken digit string, determining whether individual hypothesized strings of said list satisfy a given constraint, using a given knowledge based recognition strategy, and selecting the first string in the list satisfying the constraint as the recognized string. If none of the hypothesized digit strings satisfy the constraint, the method further includes the steps of prompting entry of a second spoken digit string, analyzing the second spoken digit string to generate a second list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the second spoken digit string, and selecting the recognized string in accordance with a comparison of the first and the second list.

Goldberg, as understood by Applicant, is directed to a check-sum based method for performing speech recognition. In the method of Goldberg, if no match can be determined an error message is provided to the user. The user may also be prompted to reenter the identifier again to re-start the process over. (See col. 5, lines 6-9).

Brown, as understood by Applicant, is directed a method for recognizing an input identifier on the basis of a set of comparison identifiers. In the method the user is prompted to provide the input identifier again, but this time according to a second form that is different than the first form. A second recognized identifier is then generated on the basis of the input identifier provided according to the second form. And a matched comparison identifier is selected, if a match exists between the second recognized identifier and one of the comparison identifiers.

Goldberg and Brown alone or in combination do not teach, show or describe, if none of the hypothesized digit strings satisfy the constraint... prompting entry of a second spoken digit string, analyzing the second spoken digit string to generate a second list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the second spoken digit string, and selecting the recognized string in accordance with a comparison of the first and the second list, as recited in Claim 1.

Although, Brown teaches a two input identifier system prompting the user to provide the input identifier again (in a different form), it does not teach the specific limitation recited in claim 1, in particular, if none of the hypothesized digit strings satisfy the constraint... prompting entry of a second spoken digit string... and selecting the recognized string in accordance with a comparison of the first and the second list.

The Final Office Action asserts that this would have been obvious to one of ordinary skill in the art to combine the teachings of Goldberg and Brown to obtain the claimed invention. Applicants respectfully disagree. Applicant respectfully submits that there would have been no motivation for one of ordinary skill to attempt to such a combination. The Final Office Action does not provide a rationale for the combination but simply concludes that "that customer dissatisfaction is minimized and a high degree of accuracy is maintained in finding a match for an input identifier." In In re

Lee, Slip Op. 00-1158 (Fed. Cir. Jan. 18, 2002) the court indicated that:

The determination of patentability on the ground of unobviousness is ultimately one of judgment. In furtherance of the judgmental process, the patent examination procedure serves both to find, and to place on the official record, that which has been considered with respect to patentability. In finding the relevant facts, in assessing the significance of the prior art, and in making the ultimate determination of the issue of obviousness, the examiner and the Board are presumed to act from this viewpoint. Thus when they rely on what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record. The failure to do so is not consistent with either effective administrative procedure or effective judicial review. The board cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies.

Even if such a modification were possible, as suggested by the Examiner, it would still not teach all of the limitations of independent claim 1, for example.

Applicants further respectfully note that it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set for in Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a

whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Applicants respectfully submit the Examiner has failed to make a prima facie case of obviousness.

Neither Goldberg or Brown, separately or in combination, teach each of the claimed limitations as recited in claims 1-5, 7, 13-16 and 18. Accordingly, applicants believe that the present invention recited in these claims are distinguishable from the prior art and are therefore allowable.

While Applicants believe that the other dependent claims are independently patentable over the cited art, no additional arguments are presented at this time.

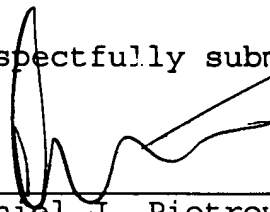
CONCLUSION

For all of the above reasons, it is respectfully submitted that the final rejection of claims 1-5, 7, 13-16 and 18 is in error. Accordingly, reversal of the final rejection of each of these claims is respectfully solicited.

This brief is being filed in triplicate.

The Commissioner is hereby authorized to credit any
overpayment or charge any fee (except the issue fee) to Account No.
14-1270.

Respectfully submitted,

By 
Daniel J. Piotrowski, Reg. 42,079
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(914) 333-9624

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On May 6, 2002
By Naemi Chapa



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APPENDIX

1. (As Amended) A method of recognizing a spoken digit string, comprising:
 - (a) receiving the spoken digit string;
 - (b) analyzing the spoken digit string to generate a list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the spoken digit string;
 - (c) determining whether individual hypothesized strings of said list satisfy a given constraint, using a given knowledge based recognition strategy;
 - (d) selecting the first string in the list satisfying the constraint as the recognized string,
if none of the hypothesized digit strings satisfy the constraint,
 - (e) prompting entry of a second spoken digit string;
 - (f) analyzing the second spoken digit string to generate a second list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the second spoken digit string; and
 - (g) selecting the recognized string in accordance with a comparison of the first and the second list.
2. The method of claim 1 wherein said given knowledge based recognition strategy comprises a database matching scheme.
3. The method of claim 2 wherein step (c) comprises searching a database of valid data strings to determine whether any of the hypothesized digit strings match one of the valid digit strings.
4. The method of claim 1 wherein the knowledge based recognition strategy is a checksum scheme.

5. The method of claim 4 wherein the spoken digit string includes a checksum digit, and wherein step (c) comprises calculating a checksum of the hypothesized digit strings and determining whether the checksum matches the value of the checksum digit.

6. The method of claim 4 further comprising the following steps:

if none of the hypothesized digit strings satisfies the constraint:

(e) generating an additional hypothesized digit string based on information gathered from the hypothesized digit strings in the list;

(f) analysing the additional hypothesized digit string to determine if the checksum scheme is satisfied;

(g) if so, validating the additional hypothesized digit string.

7. The method of claim 4 wherein the checksum scheme utilized a Luhn Checksum algorithm.

8. The method of claim 1 further comprising:

(e) if none of the hypothesized strings satisfy said constraint, using a supplemental matching technique to select the hypothesized digit string that most closely satisfies the constraint.

9. The method of claim 8 wherein the supplemental matching technique is a fuzzy matching scheme.

10. The method of claim 9 wherein the fuzzy matching scheme determines the number of corrections needed to match each

hypothesized digit string with one of a set of valid digit strings.

11. The method of claim 10 wherein the corrections comprise digit substitutions, deletions and additions.

12. The method of claim 10 wherein the corrections are weighted.

13. The method of claim 1 wherein the knowledge based recognition strategy is a digit positional strategy and the constraining is a given digit position.

14. The method of Claim 1 wherein the knowledge based recognition strategy is a digit string length strategy and the constraint is a given digit string length.

15. (As Amended) The method of Claim 1 wherein step (g) comprises:

(h) determining whether individual hypothesized strings of the second list match one of the hypothesized digit strings in the list generated in step (b) in order beginning with the string having the greatest likelihood of matching the second spoken string; and

(i) selecting as the recognized string the first string in the second list matching one of the hypothesized digit strings generated in step (b).

16. (As Amended) The method of Claim 1 wherein step (g) comprises:

(h) determining whether individual hypothesized strings of the list generated in step (b) match one of the hypothesized digit strings in the second list in order beginning with the string having the greatest likelihood of matching the spoken string

received in step (a); and

(i) selecting as the recognized string the first string in the said list generated in step (b) matching one of the hypothesized digit strings of said second list.

17. The method of Claim 1 further comprising repeating the recited steps if none of the hypothesized strings match the constraint.

18. The method of Claim 1 further comprising the step of prompting entry of a spoken digit string prior to step (a).

19. A method of recognizing a spoken digit string, comprising:

(a) prompting entry of a spoken digit string;

(b) receiving the spoken digit string;

(c) analyzing the spoken digit string to generate a list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the spoken digit string;

(d) using a given knowledge based recognition strategy, determining whether the hypothesized string of the list having the greatest likelihood of matching said spoken string satisfies a given constraint;

(e) if in step (d) the constraint is found to be satisfied, then validating the hypothesized string, and if not, removing the

hypothesized string from the list and repeating steps (d) and (e) for the remaining hypothesized strings in said list.

20. The method of Claim 19 wherein the given constraint is a valid string database match.